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ABSTRACT

This document, which is part of a series of training materials explaining the benefits and use of performance-focused learning, examines the goal-based learning approach to education and training as a means of accelerating performance change. Each page of the document consists of a graphic and bulleted list of information pertaining to one of the following topics: changing performance; performance change curves; shifting the focus of education; knowledge and performance; comparison of learning environments; structure in a lecture-based environment; structure in a goal-based environment; developing a web of support for goal-based learning; typical support for goal-based learning; forms of goal-based learning; what goal-based learning is not; the paradox of goal-based learning as learning that is both flexible and consistent; developing goal-based learning; key lessons learned from goal-based learning; organizational readiness for goal-based learning; and other readiness factors. Contains 11 references. (MN)

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Goal-Based Learning: Accelerating Performance Change

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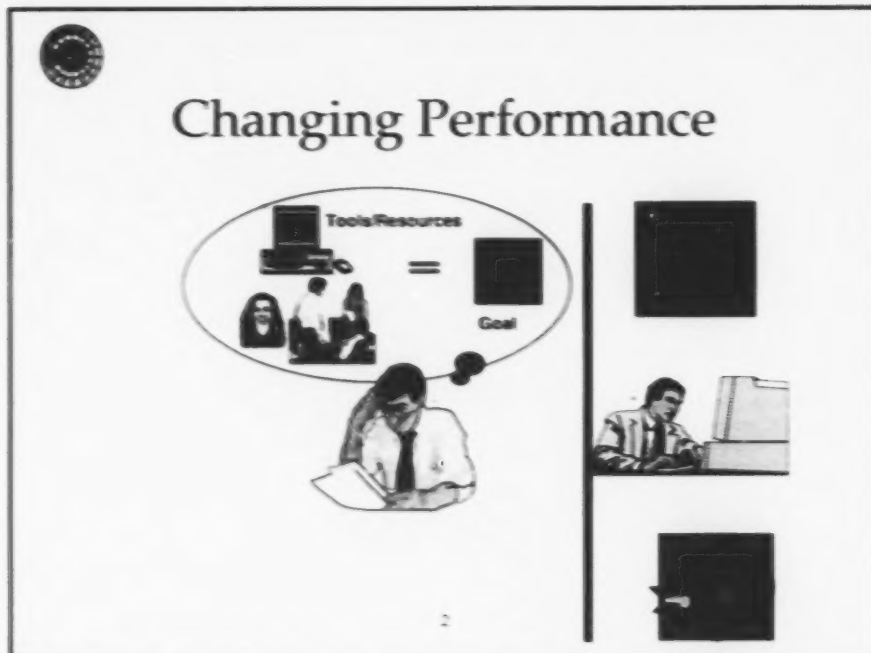
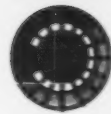
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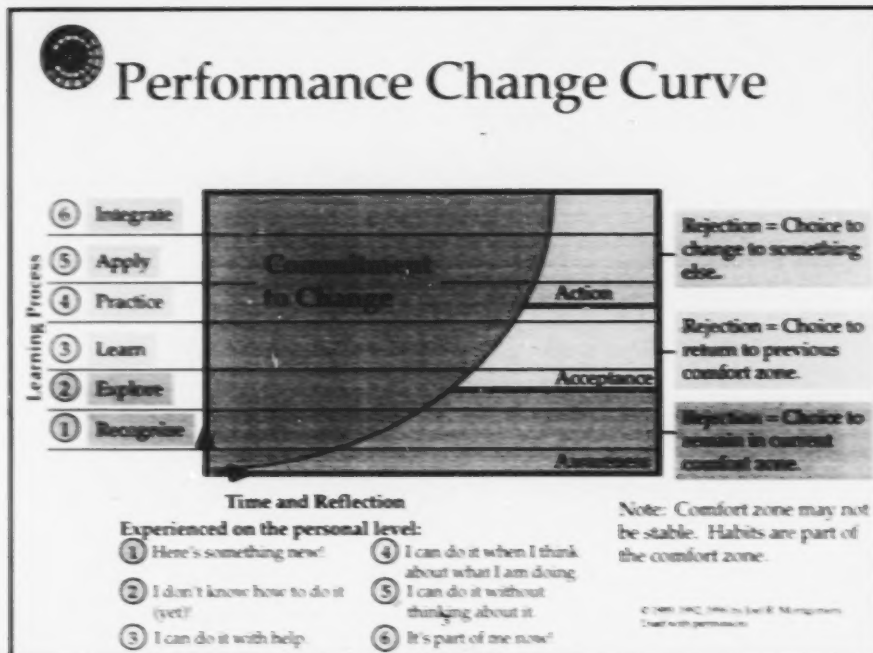
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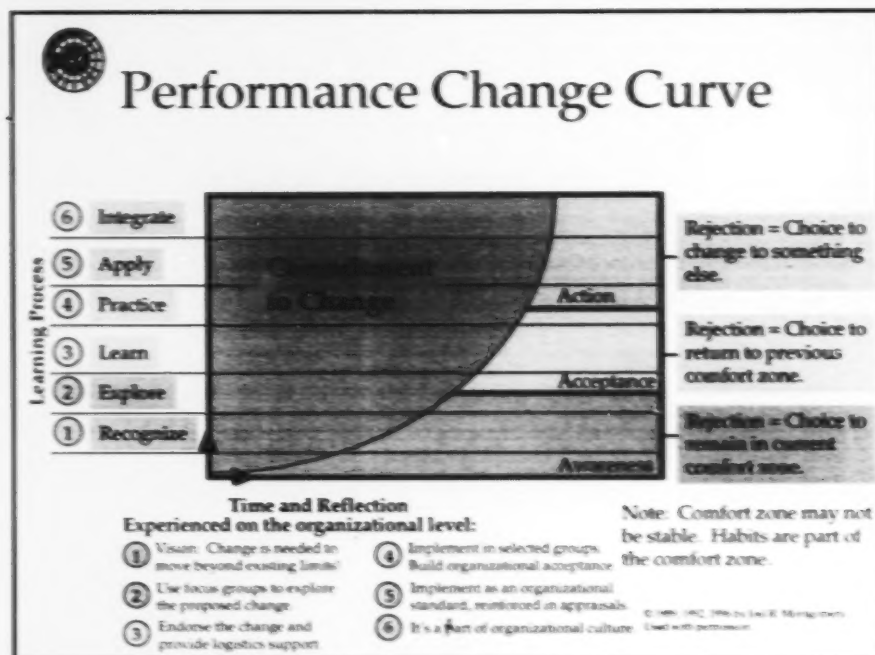
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- As individuals move up the Performance Change Curve, integrating the change with their life and work experience, they build their expertise by:
- Working through everyday problems.
- Encountering a wide variety of situations.
- Developing alternative strategies to resolve unexpected failure or mistakes.
- Building stories from their work experience to share with others.
- When an organization reaches the *learn* level on the curve, logistics are put in place to assist individuals in the organization to learn how to implement the change.
- Support for the change needs to include both focused learning/training experiences and on-the-job reinforcement.
- Performance change, especially integrated performance change, requires practice and a change of habits which takes more time than is available in a learning program of a few hours or days.

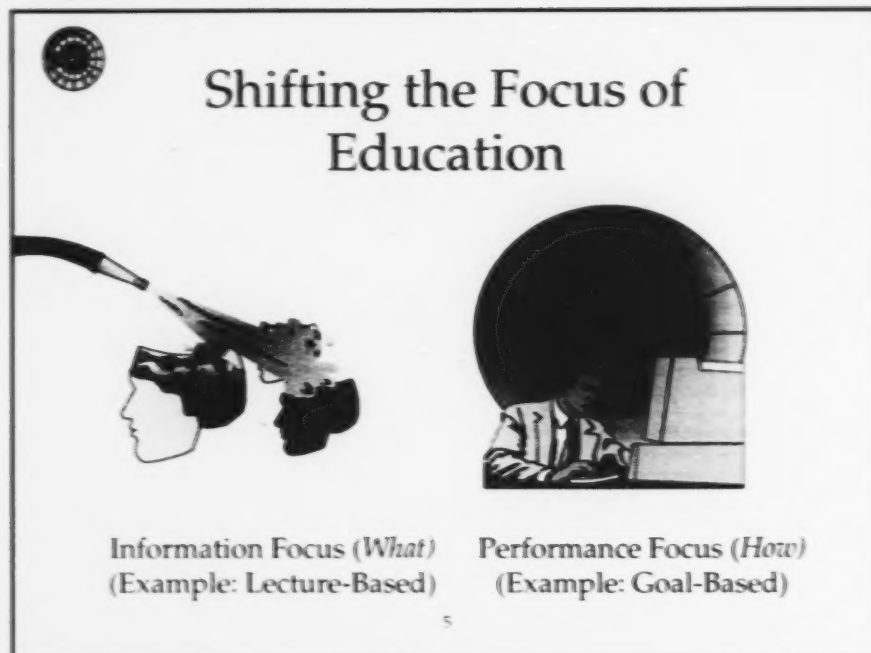


- As they pass through the three stages of awareness, acceptance, and action, individuals and organizations are more and more committed to the changed performance (habit or learning).
- Think of a time when you learned a performance skill (driving a car, riding a bicycle, swimming, skiing, ...
- How does your experience match the levels identified on the Performance Change Curve?
- Have you watched a child learn to walk, talk, eat by himself/herself? If so, how did the child's experience line up (from your perspective) with the Performance Change Curve.



- Organizations, too, pass through the Performance Change Curve when adopting a major change in how they perform.
- While approaches may vary to some extent, the examples above for each of the six levels on the Performance Change Curve holds true for many organizations in many cultures.
- Think of a time when an organization you were involved with (including a family group) was involved in a major change. How does the Performance Change Curve match your experience from an organizational perspective.
- It is important to remember that the organization needs to have moved to the *learn* level on the curve before developing programs to assist employees to change their performance in line with the new vision. Performance change learned before the organization has reached the *acceptance* stage of the curve is likely to be met with resistance rather than support and new work habits introduced while learning the performance change may not be supported by available organizational resources upon successful completion of the learning experience.

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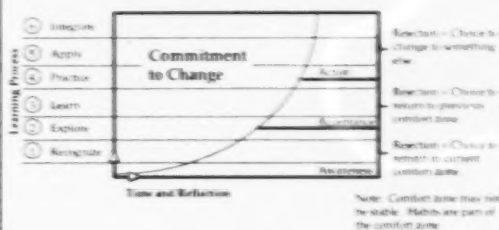


- A global shift in the focus of education has been taking place since the 1980's. (Its roots start as early as the time of Confucius, around 400 B.C.).
- The focus is moving from an *information-focus* (push information at the learner) perspective to a *performance-focus* (assist the learner to pull to himself/herself relevant information and apply it effectively).
- Examples of these types of learning environments are traditional lecture-based instruction and goal-based learning.
- One of the causes of the shift is a fundamental change in understanding how we learn.
- Humans learn from experience, from making mistakes and exploring alternatives to get where we want to go. This is how we learn to walk, to speak, and to perform on the job.
- What is consistently involved in this learning is an experience, thinking about that experience, identifying strategies to improve outcomes, and taking action on those strategies to change results.



Knowledge and Performance

Performance Change Curve



◆ Lecture-based learning builds **knowledge** at levels 1 and 2 (*recognize and explore*).

◆ Goal-based learning builds **integrated performance** at levels 3, 4, and 5 (*learn, practice and apply*).

- Lecture-based learning outcomes are normally at the recognize and *explore* levels on this curve. Progress beyond the *explore* level is left to the learner upon completion of the focused learning experience.
- Currently most goal-based learning programs target performance upon completion at the *learn* level. (The learners practice the job performance with lots of assistance in the program.) Moving on through *practice* to *apply* is left to the learner after leaving the short-term learning program. Some of these programs provide integrated performance support systems and other job aids to assist the learner in his/her continued progress on the Performance Change Curve.

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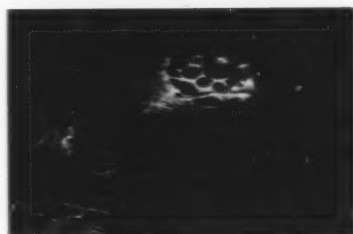
Comparison of Learning Environments

	<u>Lecture-Based</u>	<u>Goal-Based</u>
Structure	Supports Delivery	Supports Performance
Learners	Mostly Passive	Mostly Active
Learning	What is important Out of context Not integrated with work Storage & Retrieval Know about—Use later	How is important In context Integrated with work Application & Use Work with—Use now
Faculty	Deliver Content	Guide Learning
Target Outcomes	Knowledge Change at Recognize & Explore levels	Performance Change at Learn & Practice levels

- Lecture-based (information-focused) experiences are often organized by topic and have delivery objectives associated with each topic.
- In lecture-based environments, learners are asked to “play back” what the instructor (or the book) presented.
- Goal-based (performance-focused) experiences are organized by target outcomes related to performance after the learning experience. Movement toward accomplishment of these target outcomes is integrated holistically throughout the learning experience.
- In goal-based environments, learners engage in activities and demonstrate their learning through their actions.



Structure in a Lecture-Based Environment

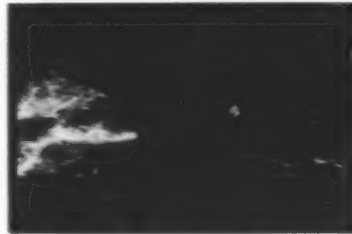


- ◆ Structure is visible from the outside.
- ◆ Structure is a shell supporting delivery of content.
- ◆ Learner is contained within the structure and can withhold attention and involvement.

- Structure in lecture-based environments is frequently seen as timed topics with a lecturer using some audio-visual support and learners sitting in chairs taking notes.
- Breaks are timed in support of topics and topics are sequenced by availability of presenters or organization of the material (if from a book, for example).
- Learners can withdraw into silence and may or may not be absorbing information being presented.
- Learners frequently find one or two good ideas to take away following a training session.
- Learning without practice is rapidly digested and forgotten.
- The ratio is frequently one expert to many learners and learning from mistakes is not supported, especially in test-taking cultures.



Structure in a Goal-Based Environment

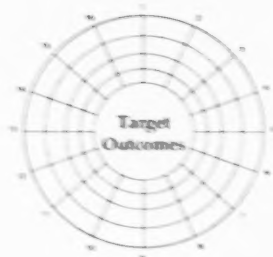


- ◆ Structure is on the inside and is not readily visible.
- ◆ Structure is rich and fully integrated into the environment.
- ◆ Learner uses the structure to support engagement in learning activities.

- Structure in goal-based environments is largely internal in the design of the program and activities. Learners are engaged, frequently in teams, and their activities resemble a typical work environment.
- Teams and individuals take breaks when they feel like it and frequently continue working on learning activities outside of dedicated class time (in the case of classroom programs).
- Learners are engaged (individually and collectively) in performing the activities required to accomplish the goals of the program. Withdrawal and non-participation is much more difficult.
- Incidental learning is also encouraged and learners gain much more than the specific targeted outcomes of the program.
- Learning is put into practice immediately and the learning experience becomes a reference point similar to work experience.
- Using computer technology, each learner can access multiple experts and the instructor becomes a guide to learning and resources rather than the resident "expert."



Web of Support for Goal-Based Learning



- ◆ Numbered lines represent activities
- ◆ Circles represent support structures
- ◆ Support may include:
 - ❖ Coaches
 - ❖ Job Aids
 - ❖ Stories
 - ❖ Work Tools
 - ❖ Other Learners

- Designing a goal-based learning environment involves a careful analysis of the target outcomes, the learning required to achieve them, and the development of appropriate activities and support structures learners can work with "just-in-time" as needed.
- Goal-based environments have been used successfully in multimedia, computer-aided environments and in paper-based classroom environments.
- Because of the rich support required, development of goal-based learning normally requires more investment of resources than most lecture-based instruction.
- One key in making goal-based learning more supportive of work performance is to make use of the same support systems used on the job to support the activities in the learning environment.
- While learners may have their first exposure to support systems in the learning environment, the habits introduced there may extend to the workplace, accelerating growth on the performance change curve.



Typical Support

- ◆ *Navigation* coaches to guide the learners through the learning process.
- ◆ *Content* coaches to provide "expert" help.
- ◆ Stories in context to help make sense of the learner's situation by telling of similar situations others have been in.
- ◆ Reference libraries & tools
- ◆ *Coach-participant* team members
- ◆ Integrated performance support
- ◆ On-line help systems
- ◆ *Treasure Maps* to guide learners through activities
- ◆ Benchmark reference points for outputs

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- On-demand support is available at a time when the user wants it. For example, a dictionary or glossary file are on demand support. The user chooses when to access them.
- Just-in-time support is sometimes "thrust" upon the user. In many cases the user won't even know that she or he needed support. An example of just-in-time support is a coach popping up (or in) to warn you about or explain the results of your actions. Other examples include meters changing to reflect satisfaction, sales, etc.
- Support generally falls into one of three areas: Navigation through the learning environment and resources; Content with the new information required to be used; and Process dealing with applying new knowledge and skill to accomplish the task outcomes of the activities.



Goal-Based Learning is . . .

- ◆ An environment focused on targeted performance change where . . .
- ◆ learners are challenged to accomplish work-related goals in a work-related context . . .
- ◆ and use a rich array of integrated support structures and processes . . .
- ◆ in a *risk free* setting that encourages learning from exploration and mistakes.

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- Goal-based learning can take many forms. Here are some examples of current GBL programs.
 - ❖ A typical work-“day/week” using new work processes (SAP, reengineered systems design)
 - ❖ A six-month consulting project in compressed time (accomplished in five or six days)
 - ❖ A six-month planning project (accomplished in real-time) with several intensive workshops to help in the development of “real” task outcomes. (This is an *integrative learning* project is and has aspects of *action learning*.)
 - ❖ A two to four-day intensive workshop where learners create the conceptual design for a goal-based learning program
 - ❖ A multimedia, computer-based program where the learner learns about the printing business while practicing consulting skills
- The common elements in the goal-based learning environment are tailored to adapt to learner needs.



Goal-Based Learning is not . . .

- ◆ A computer based training architecture
- ◆ An exact replica of a work situation
- ◆ A case study
- ◆ A simulation
- ◆ A delivery strategy

Though it may include some or all of these.

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- Goal-based learning is more than the sum of its parts.
- In developing goal-based environments, Andersen Consulting has used good ideas from a variety of fields and sources, to include Northwestern University's Institute for the Learning Sciences (and Dr. Roger Schank), problem-based and project-based learning ideas, concepts on building reflective practitioners from Chris Argyris and Donald Schön, and initiatives from resources at Andersen Consulting Education.
- Designing performance-focused environments such as goal-based learning requires a shift in perspective. Instructional designers who were skilled in developing teaching-focused (lecture and activity-based) environments report having to put aside that knowledge, work within the new environment to understand the new concepts, then bring out the best of what they knew to add value to new learning-focused designs.
- Key to building skills in developing these environments is to experience them first hand and, whenever possible, to apprentice with someone who has had successful experience in designing these environments.
- Once the concepts are understood (at the *learn* level on the change curve), then ideas as to how to incorporate this type of learning in multimedia, computer-based environments can be explored.



GBL Paradox: Both Flexible and Consistent

◆ Flexible

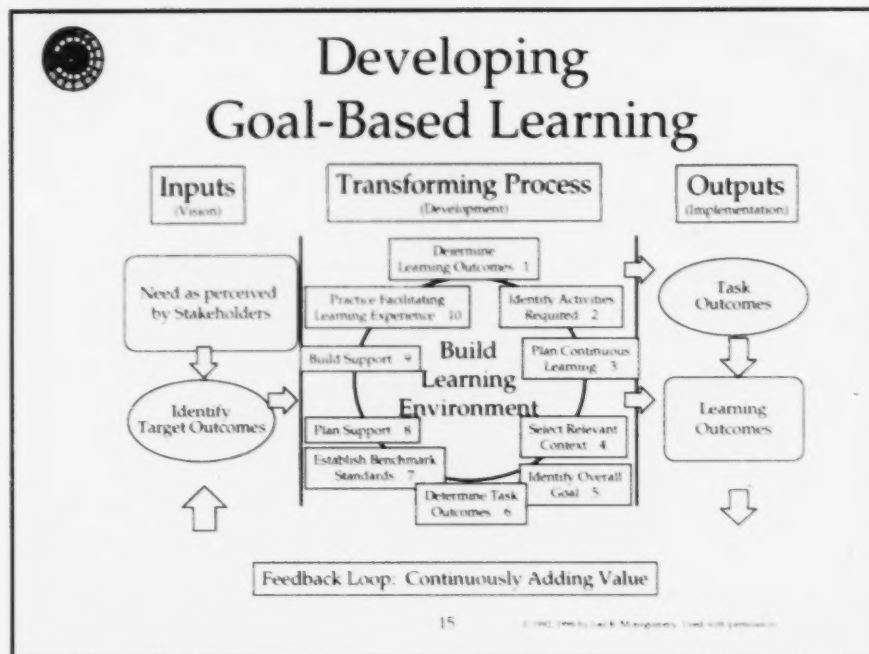
- ❖ Accommodates individual and team learning.
- ❖ Can be developed quickly and be effective with live coaches and paper-based support.
- ❖ Can be developed over time and be effective with exclusively multimedia support.
- ❖ Can be supported effectively by a mix of people and technology.

◆ Consistent

- ❖ Target (performance) outcomes drive GBL development.
- ❖ The structure of the GBL provides the learner all the *support* needed for the learner to *learn* what she/he needs to learn, to *engage* in the activities that lead to learning, and to *produce* task outcomes meeting or exceeding benchmarks.

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- Andersen Consulting has created a wide range of goal-based learning environments since 1993.
- Development times and budgets have also varied widely, depending on the nature of the GBL being developed.
- *Flexibility* is an important characteristic of GBL. It can be adapted easily to meet the needs of the sponsoring organization and the target audience.
- At the same time the essential character of the GBL needs to be *consistent*. Target (performance) outcomes drive the development of the GBL and support is provided to assist the learners to achieve these target outcomes at the performance level expected.
- When supporting major change efforts at an organizational culture level, several integrated GBL programs completed in series may be more effective than one large-scale GBL. The more learners can practice in a "learning safe" environment new work habits reinforced on the job, the more the learners can anchor those habits and transfer them to their work. Multiple exposures over time to these habits and support systems in GBL environments is a very effective strategy.
- The systems approach to developing GBL environments can be taken to a macro level with smaller programs developed as part of the overall plan.



- Target outcomes respond to the question, "How are the learners expected to perform differently after completion of the learning experience?"
- A target outcome can also be something learners need to learn during the experience. In that case they will perform at a lower level of the learning change curve during the experience than they are expected to after the experience.
- Designing goal-based learning environments requires a focus on target outcomes and performance levels followed by an holistic approach to learning design.
- The steps in this approach allow a range of freedom in development based on the needs of the organization and the target learners.
- This design process supports conceptual design for a variety of settings (classroom, multimedia) with variations taking place when the support structures are planned.
- Navigation ("learning") coaches to guide the learning are critical to the success of this approach. These can be live coaches or can be personalities and functions built into a multimedia support system.
- Practice facilitating the learning environment "early and often." Iterative development leads to greater success in achieving target outcomes.



Some Key Lessons Learned

- ◆ Learners . . .
 - ❖ Experience some initial discomfort their first few hours in the new environment.
 - ❖ Raise their expectations in their second GBL based on their success and experience in their first one.
- ❖ Need a navigation (learning coach) to intervene regularly to focus on *learning* rather than *doing*.
- ❖ Need to work toward clearly defined benchmarks.
- ❖ Need to give and receive feedback on learning and performance change.

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- In their first goal-based learning experience learners are often challenged by the difference in expectations of their behavior in the learning environment.
- Learners quickly learn to function well in the new environment and come to their second goal-based learning experience with higher expectations for the program and the value they will gain from it.
- Learning from experience is not "as natural an act" as is assumed. Rushing from one task outcome to another is typical behavior and does not support meaningful learning. Proactive interventions are required, frequently at first, to get the learner(s) to focus on their experience and what they are learning from it. This may be done live or "virtually" via computer.
- Benchmarks assure the desired levels of learning and performance are being met by the learner. Learners and people/computers giving feedback need to know and use the same benchmarks.
- Feedback on learning and performance change is an important part of the process during and after the GBL. Electronic-mail surveys seven days after a program, followed-up at the three and six month mark after completion allow a focus on achievement of target outcomes on the job and opportunities for continuous improvement.

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More Key Lessons Learned

◆ Sponsoring Organizations . . .

- ❖ Need to settle on a handful of key target outcomes.
- ❖ Need to give advance commitment to key target outcomes at specified performance levels.
- ❖ Need to have logistics in place to support the targeted performance change.

◆ Key Resources Include . . .

- ❖ Skilled development and delivery team(s) with GBL, content, and context expertise.
- ❖ Adequate time, money, & personnel to develop & deliver Goal-Based Learning.
- ❖ Navigation (learning) coaches ready and in place when the program is ready for distribution.

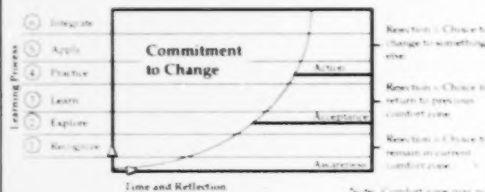
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- More than a handful of target outcomes results in a rush to accomplish too many things in too short a time for any "deep skills" to be practiced. Too many target outcomes will lower the expected performance level significantly.
- Using electronic-mail survey techniques to poll key people invested in the target learners to solicit their ideas and later to confirm the target outcomes and performance levels establishes a benchmark for the development team.
- Development teams need both GBL and content expertise to build support for clear target outcomes. Once the program is developed, delivery teams also need in-depth understanding of how to guide the learning in a GBL environment. Navigation (learning) coaches need to be selected and trained prior to delivery of the programs.
- Design of goal-based learning comes from an entirely different perspective than familiar instructor-led, lecture-activity-based design. Existing lecture-activity based programs are not easily retooled into goal-based learning. The programs can be completely reworked based on target performance outcomes rather than on target content delivery.
- Because of the rich, integrated structure supporting the learning environment, GBL environments require significantly greater investment of resources to develop than do leaner, lecture-based environments.



Organizational Readiness for Goal-Based Learning

Performance Change Curve



◆ Organization is at the *acceptance* stage of the change curve.

◆ Targeted performance change is at the *learn*, *practice*, and/or *apply* levels of the change curve.

◆ Time frame and resources support goal-based development and implementation

- In the *acceptance* stage the organization has moved to at least the *learn*-level on the curve, has endorsed the change and is putting in place the logistics to support the change throughout the organization. Goal-based learning is one of the support mechanisms being used.
- It is sometimes more effective to take a fresh look at performance needs and to develop a learning-focused plan to meet those needs. Such a plan could include goal-based learning to "jump-start" performance or to take people to new levels of performance. The plan could also involve learning as a part of job assignment, coaching others to support learning by the coach as well as by the people being coached, mentoring programs, action-learning groups, regular feedback with positive performance change ultimately rewarded in the performance review and promotion structure of the organization (when the organization reaches the *apply* level on the change curve).
- Performance change at the *apply* and *integrate* levels of the curve normally requires a great deal of time and experience, much more than normally available in a short-duration GBL. Sequenced GBL's can be used to move people into the *apply* level.



Other Readiness Factors



- ◆ Developers have a solid experience of goal-based learning from both a learner and a educator viewpoint.
- ◆ Logistics are in place to support new work habits learned through the goal-based experience.

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- Developers need a firm foundation in goal-based learning design. GBL's learning-focused approach to development is a significant departure from the teaching-focused approach used widely throughout the last century.
- Resources are key for development and implementation of effective goal-based learning. This is more important in the work environment than in the learning environment.
- Because learners will be developing work habits in the GBL that emphasize the routine use of support in the work environment, the support needs to exist when the learners exit the GBL and move back to their workplace.
- Non-work resources are occasionally required to support complex learning environments. This is especially true if time compression is at a maximum and learners (who would normally have days or weeks to sift through information) need to "come up to speed" very quickly. Each time non-work support resources are considered, developers must weigh the trade-off between completing the learning activities in the time allowed and in developing reliance on resources that will not truly be available in the workplace.



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- By now you are somewhere between the *recognize* and *explore* levels on your personal change curve dealing with the concept of goal-based learning.
- Where can you go for more information?
- Feel free to contact the Andersen Consulting Change Management personnel who work with you. They have access to Andersen Consulting's Knowledge ExchangeTM and to our *Change Management Library* database that has several articles and presentations about goal-based and integrative learning.
- Check out a series of articles regarding Andersen Consulting Education's early experience with goal-based learning in the November/December, 1994 edition of *Education Technology*.

For more information about this presentation, contact the author at joel.r.montgomery@ac.com or joelmonty@usa.net or call in the USA VPN 234-5462 or 630-208-0336.



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